NANJING ODES ELECTRIC CO., LTD.

GRUS-11T
LOCKOUT Relay
Specification
(V1.1)

（RD-ENG-T14 V2.0　2008-06-06）

Nanjing Odes Electric Co., Ltd.

CONTENTS

1. General

1.1 Application

The relay is used for generator-transformer unit protection or transformer protection cooperation to implement the function of the 1 road or 2 road input, tripping circuit exports of at most 21 contacts and send messages.

1.2 Features

The output time of relay is less than 7ms and ensure the fast output of tripping.

Several relay assemblies have been used to implement the same functions, high cost, complicated connection, low visibility and high maintenance cost of original methods have been solved so that to simplify the customers' connection.

The relay may meet the panel perforate installation and fully compatible with standard embedded relay as the push in type structure. It adopts the buckle which is popular in foreign and it is convenient to install.

1.3 Models and naming rules

Typical type	GRUS	-11T	-7H6D	-6H1D	/220V

Series models
Operation relay series

Function definition

11T=LOCKOUT relay plastic structure

11TM=LOCKOUT relay metal structure

Type of the first set of relay output contact
3H3D：3 normally open 3normally close （and so on）

Type of the second set of relay output contacts（it will be ignored if one of sets open this option）
6H1D：6 normally open 1 normally close （and so on）

Voltage level
110V=DC 110V； 220V=DC 220V

Note：

The relay of GRUS-11T structure can output at most 13 contacts, relay of GRUS-11TM structure can output at most 21 contacts. 11TM normally open and close can be decided when selecting.

Typical type：

GRUS-11T-6H1D/220V GRUS-11TM-21H/220V GRUS-11T-3H3D-6H1D/220V

GRUS-11TM-5H5D-6H5D/220V

2. Main technical data

2.1 Technical data

- Working power supply：DC220V、DC110V or others（optionally）；
- Permissible diviation：－20%～15%　　Ripple factor：<5%
- The road number which LOCKOUT outputs：1 road, 2 road are optional;
- Reset mode：manual or remote control;
- LOCKOUT relay starting voltage：30%-80%
- Contact arc interruption capacity：2000VA（AC) or 60W(DC);
- Contact continuous working current：
  - Current allowed to pass by within 2S under the 110V DC voltage is no less than 10A and 30A per 0.2S(note: it is not used for arc interruption);
  - The interrupting capacity in inductance circuit of 110V DC voltage(t<40ms) is no less than 60W.
- The output time of LOCKOUT：typ.=5ms　　max=7ms
- Power consumption：less than 10W in normal working.

2.2 Insulating property

2.2.1 Insulation

The insulation resistance value among live parts and non-live parts and crust, and between each circuit on electric, measuring by meager of 1000V open circuit voltage should meet the requests of table 1：

The measured circuit	Request of insulation（MΩ）
DC voltage circuit——GND	≥20
Output contact——GND	≥20
Output contact——DC voltage circuit	≥20

Table 1 Insulation

2.2.2 Dielectric strength

The relay can withstand PF breaking-down test which frequency is 50Hz and leakage current is 5mA during 1min, and no breakdown, flashover and components damaged. The test voltage should meet the requests of table 2：

The measured circuit	The tested voltage （V）
DC voltage circuit——GND	2000
Output Contact——GND	2000
Output contact——DC voltage circuit	2000

Table 2 Dielectric strength

3. Panel description

4. Attached map

4.1 Principle and typical connection diagram

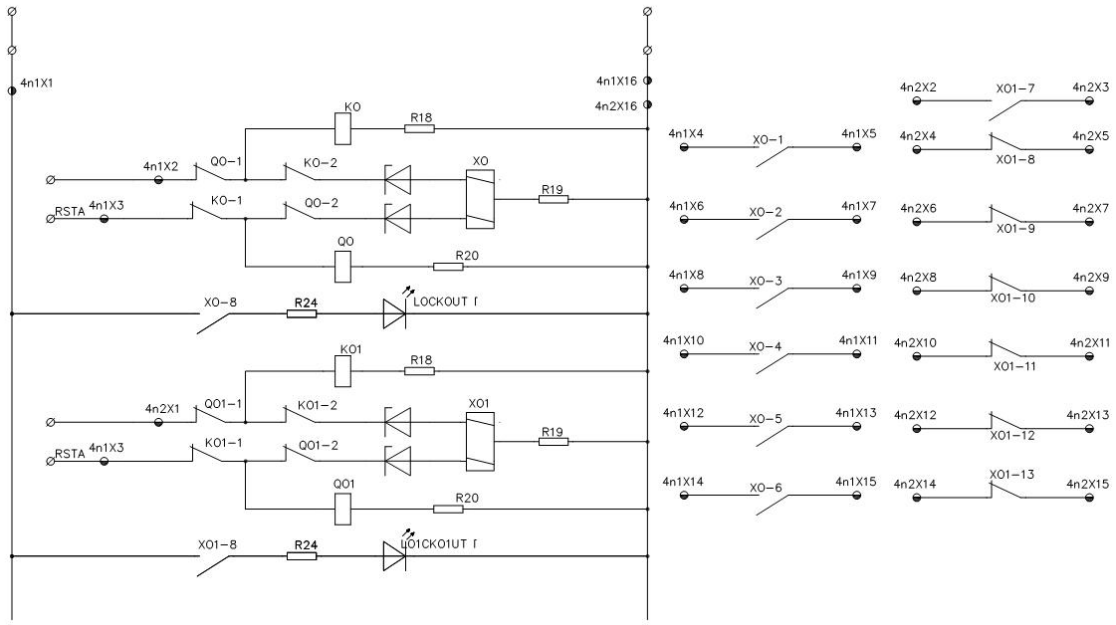

Figure 3 GRUS-11T principle and typical connection diagram

***Note*：** The number of normally open and close contacts is decided according to the model customized.

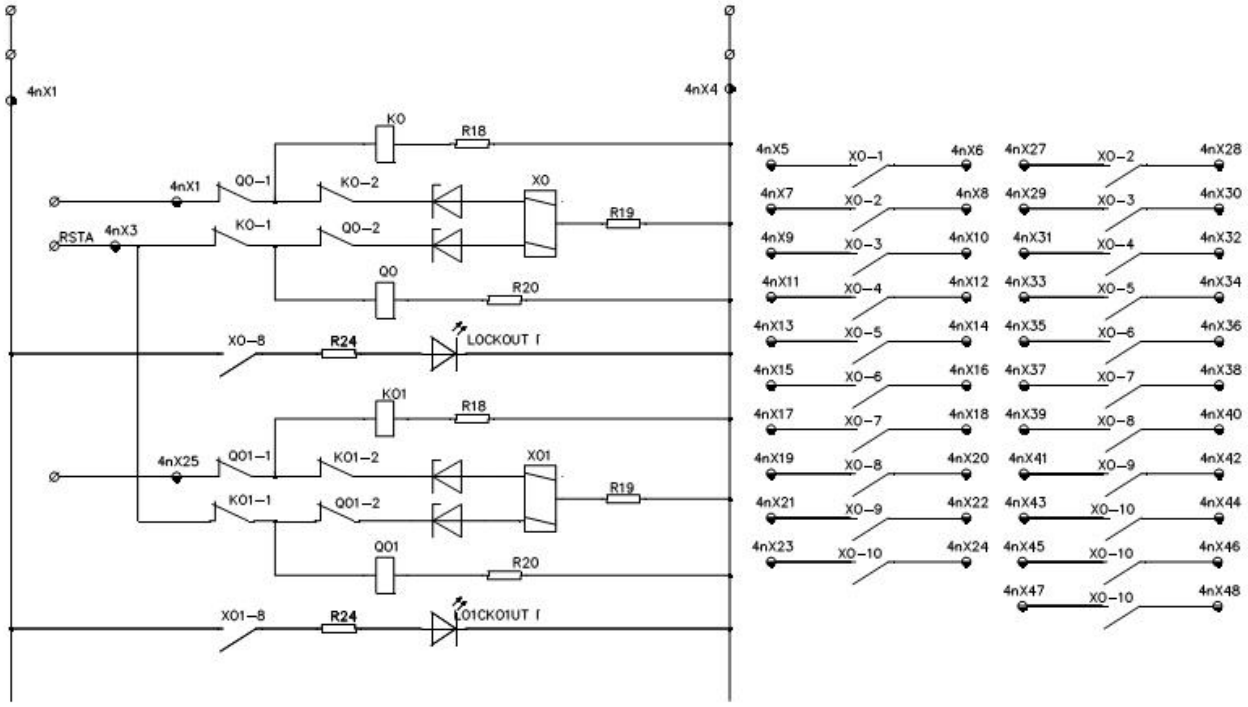

Figure 4 GRUS-11TM principle and typical connection diagram

***Note*：** the number of normally open and close contacts is decided according to the model customized.

4.2 Terminal definition drawing

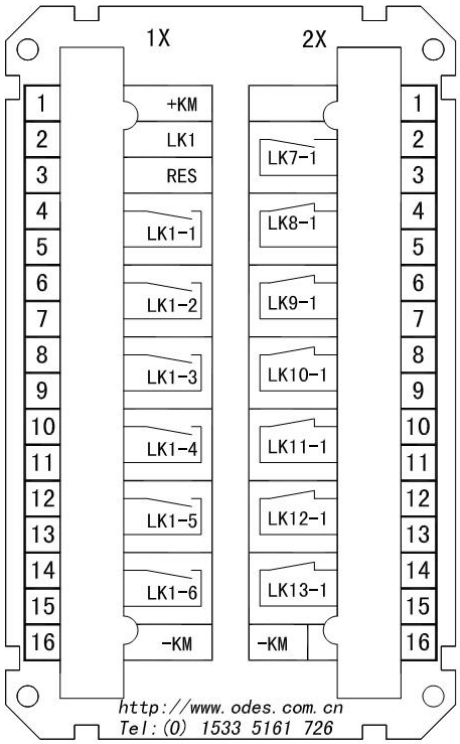

Figure 5 GRUS-11T terminal definition of standard configuration

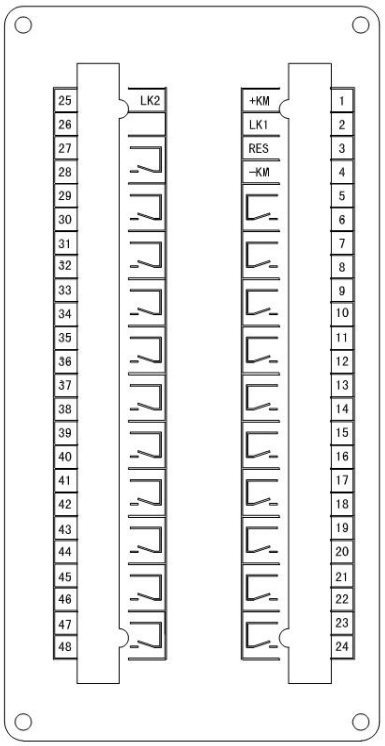

Figure 6 GRUS-11TM terminal definition of standard configuration

4.3 Perforate dimension drawing

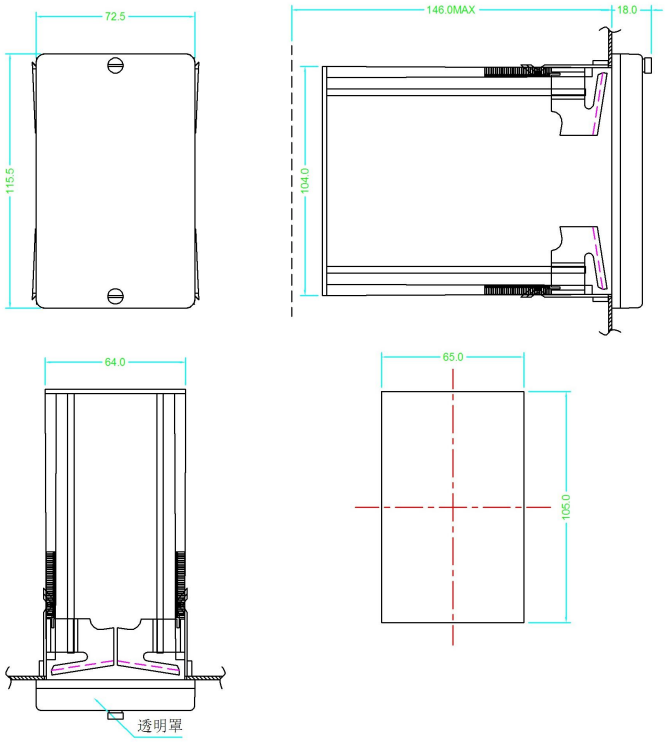

Figure 7 GRUS-11T plastic case installation dimension

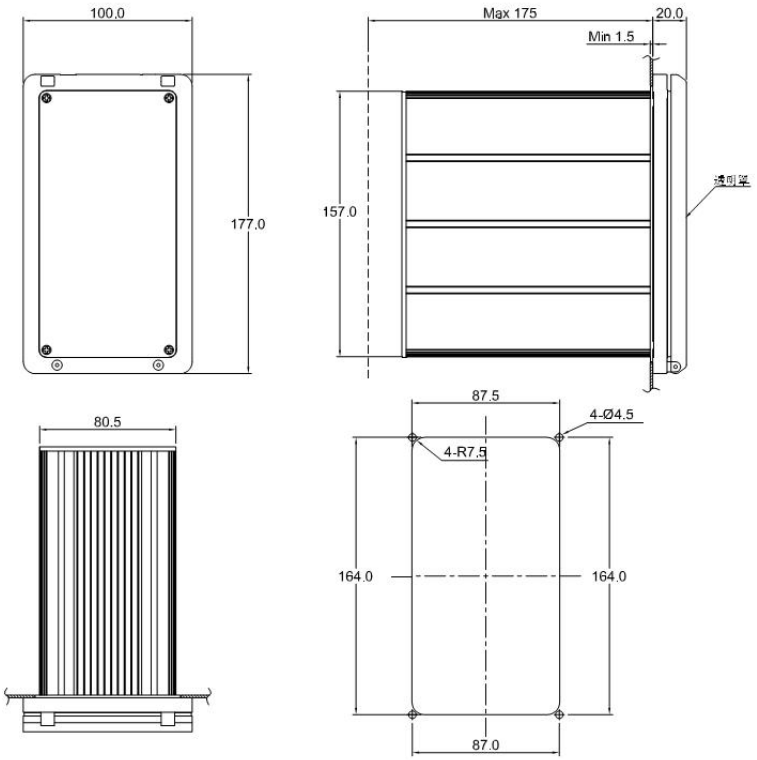

Figure 8 GRUS-11TM metal case installation dimension